Warranty

Knoll Systems warrants MA1250 amplifiers sold in the USA and Canada by authorized Knoll dealers to be free of defects in materials and workmanship. This warranty extends for three full years from the date of purchase by the original consumer. Any products returned to Knoll Systems and found to be defective by Knoll Systems within the warranty period will be repaired or replaced at Knoll Systems decision, at no charge. Knoll Systems will not be responsible for the actual cost of installation or removal of the product, nor for any incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights. You may have additional legal rights that vary from state to state.

Specifications:

Inputs	12 Gold RCA jacks with adjustable gain
Input impedance	50k ohms
Outputs	detachable plug
Output power	50 watts RMS per channel (8 ohms)
Peak output power	100 watts per channel (8 ohms)
Ideal impedance	4 - 8 ohms
Frequency response	10 Hz - 40 kHz +/- 1dB (1w)
S/N ratio	over 105 dB A weighted (50 watts)
THD distortion	less than 0.1% 20 Hz to 20 kHz
IMD distortion	less than 0.01% 60 Hz 7 kHz 4:1 (SMPTE)
Trigger control	12 VDC 35mA on 3.5mm mono jack
Dimensions	17" x 3.5" x 11.5" (432 x 89 x 292mm)
Fan Noise	quiet 26 dBA
Power	750 watts at 117 VAC or 230 VAC
Weight	21 lbs (9.5 kg)

Note: Specifications subject to change without notice.

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Made in Canada

MA1250 Amplifier

12 Channel Amplifier
Installation Instructions v1.2

Warning: To be installed and/or used in accordance with appropriate electrical codes and regulations.

Description: The MA1250 is a member of the long line of Knoll multi-channel amplifiers. Designed primarily for the custom install industry, it is used to power speakers with different or similar sources in multiple rooms. With 12 channels rated at 50 watts per channels at 8 ohms, the MA1250 packs some serious punch. Each channel has a gain control. The MA1250 can be turned on and off via the front panel power switch or via the 12 VDC trigger. MA1250 channels 3-12 can be linked to channel 1-2 individually using the link switches. MA1250 amplifiers designed to meet the amplifier needs of custom installed systems where high-quality sound is a specific requirement.

Key Features:

1. Size efficiency. The MA1250 consists of a total of 12 power amplifiers in one 3-1/2” high enclosure. Each power amplifier channel can deliver 50 watts RMS into an 8-ohm load.
2. Automatic protection circuitry. Each MA1250 channel is individually and fully protected against low impedance, overheating, overloading, overvoltage and undervoltage. The protection circuitry automatically restores the amplifier channel as soon as its parameter returns to the safe operating area.
3. Individual input gain adjustment. Each channel features an input gain adjustment pot to adjust each channel for gain and speaker sensitivity variations. The gain adjustments are on the rear of the MA1250 so installers normally set the gain.
4. External power on/off. The MA1250 can be turned off and on by external controllers. To activate external power on, apply a 12 VDC current to the trigger jack (the MA1250 power switch is in the off position for external power control).
5. Stackable 17" chassis.
6. Link Feature. Certain installations require that some or all of the stereo channels play the same content. Instead of using Y cords, "link" cascades any or all of channels 2-6 to channel 1 (l/r).

Important Safety Instructions:

1) Read these instructions.
2) Keep these instructions.
3) Read all warnings.
4) Follow all instructions.
5) Do not use this apparatus near water.
6) Clean only with dry cloth.
7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prongs are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11) Only use attachments/accessories specified by the manufacturer.
12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13) Unplug this apparatus during lightning storms or when unused for long periods of time.
14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15).Under no circumstances should the output terminals of the amplifier be short-circuited.
16).Be sure that the loudspeakers connected can handle the output power of the amplifier at the loudspeakers rated impedance. The warranty on the amplifier does not cover damage to loudspeakers that have inadequate power handling capabilities.
17) Where an all-pole MAINS SWITCH is used as the disconnect device, the location on the apparatus and the function of the switch shall be described, and the switch shall remain readily operable;
18) A push button is used to turn the power off and on.
19) A LED is used to show when the apparatus is powered on.

CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

WARNING: This product contains chemicals, including lead, known to the State of California to cause birth defects or other reproductive harm. ***Wash hands after handling***.

Hum and noise

In most cases, one of the following suggestions should help you solve a hum noise in your system. Please try these steps in the order shown, proceeding from one step to the next if the prior suggestion does not eliminate the problem.

Suggestion #1

To determine if a cable TV connection is responsible for the hum, first turn off all the components. Disconnect the cable TV feed to your system at the first place where it connects to your components. Alternatively, disconnect the cable TV wire where it is connected at the wall outlet. Turn your system back on, and listen if the hum has disappeared. If removing the cable TV feed has eliminated the hum, you will need to insert a Ground Loop Isolator (Knoll model GB634) before reconnecting the cable TV feed, or contact your cable TV operator to see if they can better isolate your cable feed.

Suggestion #2

Turn off all components in your system and then disconnect the input cables at the amplifier. Turn the amplifier back on to see if the hum is still present. If the hum disappears, the fault may be in the input cables used. Try replacing them with cables that have better shielding, and make certain that the input cables are not running on top of any AC power cords. Change the cables one at a time to determine if one or all cables are responsive. If the hum disappears when the input cables are disconnected but returns after the cables are changed and the system reconnected, your source device may be causing the problem.

Suggestion #3

Poor grounding of the electrical system in your home may also cause ground loop problems, particularly when there are multiple components with three prong, grounded, power cords. Unplug these components one at a time, and see if one or all of them is causing the problem. The ultimate solution to this type of problem is to rewire your house with an isolated, star type-grounding configuration. Knoll understands that this may be impractical and expensive. In some instances, the use of an approved AC Power Isolation Transformer (Knoll model PLB200) of sufficient capacity may solve this problem.

Warning: If you suspect that the grounding system in your home's electrical wiring is causing the hum problem, it is important that you do not make any changes to the wiring. Only a licensed electrician should make any changes to household wiring and they must be made in full compliance with all local building, safety and electrical codes.

Knoll Systems service information

The MA1250 amplifier does not contain any user serviceable parts inside. If you suspect a problem that may require servicing, contact us at www.knollsystems.com/contact.html, or by phone at 800 566-5579.

Troubleshooting

If a problem is encountered with the MA1250, the most expedient procedure is to locate the problem and if possible repair it before requesting service. Be sure to carefully check other system components such as controllers, CD players, volume controls, wiring, speakers, etc. that may be at fault.

Problem	**Action**
Power LED does not light - no sound	1. Check that the MA1250 is plugged in. 2. Test the AC outlet with a lamp. 3. If remote on/off is used, check that the trigger voltage is at 12 VDC. 4. Check MA1250 power button on (in).
Sound cuts out	1. Verify speaker impedance is 4-16 ohms. Changing speakers may be required. 2. Check if the MA1250 feels hot. If it's hot increase cooling - see **Installation**.
Sound is distorted	1. Turn the volume down. 2. Check speakers for damage. 3. Check inputs for proper levels. MA1250 gain and source output level may have to be adjusted. 4. Speakers may be less than 4 ohms.
MA1250 does not turn off	1. Push MA1250 power switch off (out) 2. If trigger is being used, power switch needs to be set to off (out) position or amp is on all the time. 3. Try disconnecting trigger jack.
Trigger does not work	1. Measure trigger voltage with a volt meter. It needs to be 11-15 volts **DC** to work (current is about 35mA total per amp). See page 5 for details.
Speaker pops when amp turned on or off	1. Speaker may need resistor placed across terminal. Suggest 2k0 1/4 w. Discharges speaker internal cap.

Installation

Installing the MA1250 should be relatively easy. With a bit of planning, the MA1250 will give trouble free service for years.

1. The most important consideration when installing the MA1250 is cooling. The MA1250 has a lot of power packed into a small chassis size. When installing it in an equipment stack, it should be the top component. It needs at least 3"-5" of space above the amplifier to allow for adequate convection cooling.

2. Amplifiers should always be the top components in system.

3. If MA1250 channels frequently shutdown due to overheating, install a fan directed up from the MA1250 bottom center.

4. Never operate the MA1250 on its side, as the cooling potential drops significantly when operated on the side.

5. Connect the MA1250 inputs to the source component outputs with good quality, short as possible RCA jack cables. Connect each channel individually.

6. Connect the MA1250 speaker outputs to speakers using good quality speaker wire. Minimum 16 gauge copper wire is recommended with 14 gauge minimum for runs over 30' (10m).

> **Note:** Ideally the MA1250 likes 6-8 ohm loads. Connecting to 4 ohm loads won't hurt the MA1250 but those channels connected to 4 ohm loads may occasionally shutdown due to overloading. Never connect the MA1250 to less than 4 ohms.

7. Individually adjust the channel gains as required. Ideally, all gains are fully on (fully clockwise).

8. Make sure the speakers in each room are connected in phase with the amplifier + going to the speaker + . Out of phase speakers give unstable imaging and poor bass response.

9. Connect trigger if being used to a 12 VDC source (about 35mA) using a 3.5mm mono jack. 5 VDC triggers will not work.

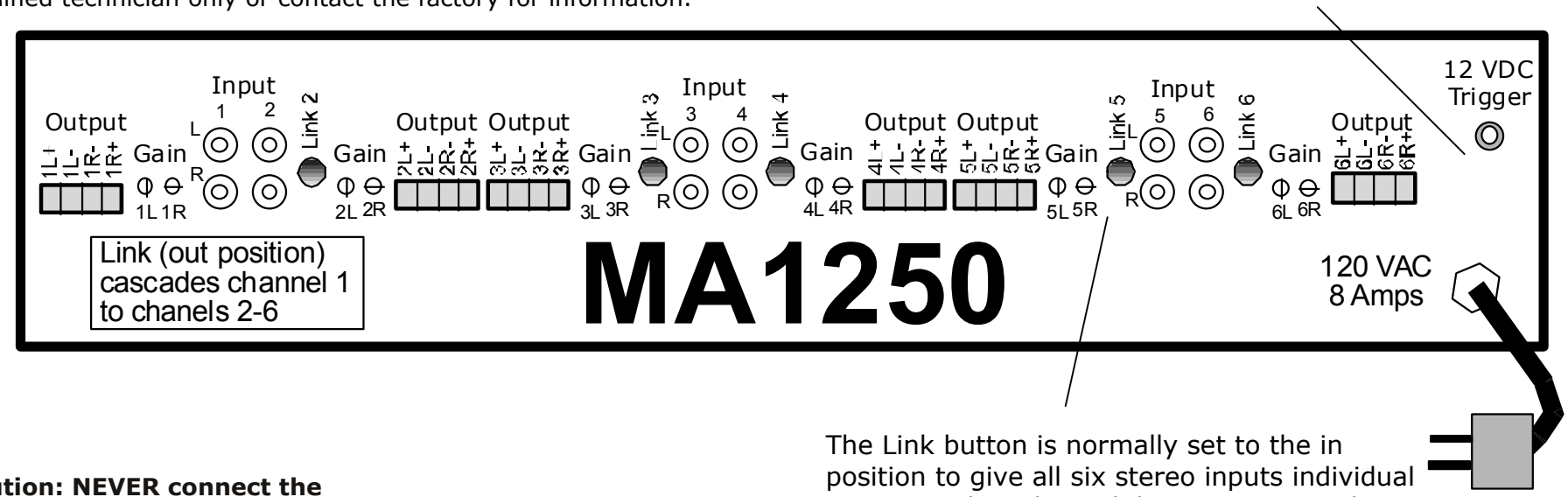
10. Connect the AC power into an outlet that supplies at least six amps (750 watts) dedicated to each MA1250.

Caution: Never listen to sound that is distorted. If distorted sound is heard, turn the volume down immediately or speaker and/or amplifier damage could occur that is not covered by the warranty. If this problem persists, contact your dealer.

User adjustments and service: There are no user adjustments on the MA1250. Your installer may make certain gain level adjustments on the rear panel.

Caution: The MA1250 contains no user serviceable parts, so do not attempt to open or repair the MA1250. Refer servicing to a qualified technician only or contact the factory for information.

The trigger is 12 VDC (35mA per MA1250) via 3.5mm mono jack. 5 VDC trigger outputs will not work. To connect the trigger to a receiver use a 12 VDC power supply (we suggest Knoll PS1202 power supply with an adaptor). Plug the power supply into the switched outlet on the rear of the receiver. Connect the 12 volt wire to a 3.5mm mono jack. Plug the jack into the rear of the MA1250. 12 VDC polarity is not important. Make sure the amplifier power switch is off (out). When the receiver is switched on, the MR1250 amplifier is switched on.



Caution: NEVER connect the MA1250 to impedances less than 4 ohms or amplifier damage not covered by the warranty may occur.

The Link button is normally set to the in position to give all six stereo inputs individual sources. When the Link button is set to the out position, that input Left/Right is linked or cascaded to input #1 (without the use of Y cords). Any or all combination of linked inputs 2 to inputs 6 are possible. When all inputs are linked to input 1 the input impedance is about 4000 ohms.